The Town of Vienna 2010 Annual Water Quality Report

for the Town of Vienna and the surrounding service area

MESSAGE FROM THE TOWN MANAGER

This is the Town of Vienna's twelfth annual report to inform you about your drinking water quality. As a part of the Safe Drinking Water Act of 1996, the U.S. Environmental Protection Agency (EPA) requires all water utilities across the nation to mail their customers a Water Quality Report by July 1, 2010. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand our efforts to protect your water supply.

The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health. We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The tables in this report list only those contaminants that had some level of detection. Many other contaminants have been analyzed but were either not present or were below the detection limits of the laboratory equipment. All of our water quality data are from testing done in 2009. However, the Commonwealth allows us to monitor for some contaminants less than once a year because the concentration of these contaminants does not change frequently. Even though some of our data may be more than one year old, they are accurate.

Is your water safe to drink? Absolutely, we're proud to share our water quality test results with you. For further information, please call the contact number below.

Sincerely,

John H. Schoeberlein

John H. Schoeberlein
Town Manager

This report contains important information about your drinking water. If you are not certain that you understand it, discuss it with someone who does or who can translate it for you if English is your second language. For more information, contact James Calvert, Town of Vienna Water & Sewer Superintendent, at 703-319-8610 or e-mail jcalvert@viennava.gov.

El informe contiene informatión importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

OPPORTUNITIES FOR PUBLIC PARTICIPATION

Decisions concerning Vienna's water are made by the Town Council. Regular meetings are normally held the first and third Mondays of the month (except July and August) at 8 p.m. in the Council Chamber at Town Hall.

GENERAL INFORMATION

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity. Substances (referred to as contaminants) in source water may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban storm water runoff, residential uses, and many other types of activities. Water from surface sources is treated to make it drinkable while groundwater may or may not have any treatment.

All drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline.

WATER SOURCES

For the calendar year 2009, the Town of Vienna was supplied with treated surface water from the Potomac River by the City of Falls Church. The Town purchases treated water from the Washington Aqueduct supplied by Falls Church. The final source is groundwater from two wells in the Town of Vienna. Well water is blended in the Town's delivery system and comprises approximately 1% of our total usage. In November 2009 the two wells were taken out of service.

HOW DO I READ THIS CHART?

Our water is tested to assure that it is safe and healthy. Contaminants in the drinking water are routinely monitored according to Federal and State regulations. The table contained in this report shows the most recent results of our monitoring. Typical sources of contamination show where this substance usually originates. The following definitions are provided to help you better understand terms and abbreviations.

- The Washington Aqueduct sampling program includes cryptosporidium. Their results and information are included.
- Non-detects (ND) – laboratory analysis indicates that the contaminant is not present.
- Parts per million (ppm) – one part per million corresponds to one minute in two years or a single penny in $10,000.
- Parts per billion (ppb) – one part per billion corresponds to one minute in 2,000 years or a single penny in $10,000,000.
- Parts per trillion (ppt) – one part per trillion corresponds to one minute in 2,000,000 years or a single penny in $10,000,000,000.
- Picocuries per liter (pCi/L) – picocuries per liter is a measure of the radioactivity in water.
- Nephelometric Turbidity Unit (NTU) – nephelometric turbidity unit is a measure of the clarity, or cloudiness, of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.
- Action Level (AL) – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT) – a required process intended to reduce the level of a contaminant in drinking water.
- Maximum Contaminant Level (MCL) – the highest level of a contaminant that is allowed in drinking water. MCLs are set at very stringent levels by the U.S. Environmental Protection Agency. In developing the standards EPA assumes that the average adult drinks two liters of water each day throughout a 70-year life span. EPA generally sets MCLs at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-one million chance of having the described health effect for other contaminants.
- Maximum Contaminant Level Goal (MCLG) – the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Maximum Residual Disinfectant Level (MRDL) – the maximum level of total chlorine allowable by regulation.

PERCHLORATE RESEARCH

Perchlorate is a naturally occurring as well as man-made compound. Its presence in drinking water is currently unregulated and utilities are not required to monitor for it. The Washington Aqueduct has been voluntarily monitoring for perchlorate since 2002. The EPA initially established a reference dose of 24.5 parts per billion (ppb) for perchlorate and beginning in 2009 has proposed an interim health advisory of 15 ppb. A reference dose is a scientific estimate of a daily exposure level that is not expected to cause adverse health effects in humans. The reference dose concentration was used in EPA's efforts to address perchlorate in drinking water and to establish the interim health advisory.

In 2009, finished water samples sample results for perchlorate collected by Washington Aqueduct at both treatment plants ranged between none detected and 2.3 ppb. If you have special health concerns, you may want to get additional information from the EPA at *http://www.epa.gov/safewater/contaminants/unregulated/perchlorate.html* or contact the EPA's Safe Drinking Water Hotline at 800-426-4791 TTY711.

LEAD IN DRINKING WATER

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Town of Vienna is responsible for providing high quality drinking water, but cannot control the variety of materials used in private plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 15 to 30 seconds or until it becomes cold or reaches a steady temperature before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at *www.epa.gov/safewater/lead* or by calling the Safe Drinking Water Hotline at 1-800-426-4791, TTY 711.

TURBIDITY IN DRINKING WATER

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

2009 SOURCE WATER *CRYPTOSPORIDIUM* INFORMATION

The Town's water supplier has been monitoring the source waters for compliance with the EPA's Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). The EPA created this rule to provide for increased protection against microbial pathogens, such as *Cryptosporidium*, in public water systems that use surface water sources. *Cryptosporidium* was monitored in the source water monthly in 2009 but was not detected in any sample.

WATER TREATMENT PROCESS CHANGES

To improve the water treatment process and reduce operational risk, projects at the Washington Aqueduct are underway to replace the use of bulk liquid chlorine with sodium hypochlorite in the disinfection process and to install a new caustic soda feed system to allow better fine tuning of the pH levels for corrosion control. These projects are scheduled to be completed by the end of 2010.

The use of sodium hypochlorite and caustic soda may increase the level of sodium in the finished drinking water by up to 6 mg/L. The U.S. Environmental Protection agency has identified 20 mg/L of sodium in drinking water as a health-based value for an individual on a 500 milligrams per day restricted sodium diet. In 2009, sodium levels in the finished water ranged from 10 to 22 mg/L. For more information about sodium in drinking water, please visit the EPA's website at www.epa.gov/safewater/contaminants/unregulated/sodium.html, or call the EPA's Safe Drinking Water Hotline at 800-426-4791, TTY711.

WATER QUALITY RESULTS

I. Microbiological Contaminants – Were there any detections? (X) Yes, as described below. ( ) No.
Laboratory results indicated that coliform bacteria were present in one test out of 372 samples.

II. Lead and Copper Contaminants – Were there any detections? (X) Yes, as described below. ( ) No.

Contaminant	Units of Measurement	Action Level	MCLG	Results of Samples for the 90th Percentile Value	Action Level Exceedance?	Sampling Year	# of Sampling Sites Exceeding Action Level	Typical Source of Contamination
Lead	ppm	0.015	0	0.001	NO	2009	0	Corrosion of household plumbing systems
Copper	ppm	1.3	1.3	0.10	NO	2009	0	Corrosion of household plumbing systems

III. Turbidity – Were there any detections? (X) Yes, as described below. ( ) No.

Contaminant	Treatment Technique Limits	Level Detected	Violation?	Sampling Year	Typical Source of Contamination
Turbidity***	1. 1 NTU maximum 2. 0.3 – 95% of the time	1. highest single measurement = .12 2. lowest monthly percentage = 100%	NO	2009	Soil runoff

Notes:
*** The turbidity level of filtered water shall be less than or equal to 0.3 NTU in at least 95% of the measurements taken each month and shall at no time exceed 1 NTU.

IV. 2009 Finished Water Characteristics, Source Monitoring for Regulated Parameters – Were there any detections? (X) Yes, as described below. ( ) No.

Inorganic/Synthetic/ and Metals	Units of Measurement	MCLG	MCL	Level Detected	Violation?	Range of Detection at Sampling Points	Sampling Year	Typical Source of Contamination
Arsenic	ppb	0	10	0.66	NO	0.18-0.66	2009	Erosion of natural deposits; runoff from orchards/manufacturing of glass and electrical products
Atrazine	ppb	3	3	0.08	NO	ND-0.08	2009	Runoff from herbicide used on row crops
Barium	ppm	2	2	0.04	NO	0.03-0.04	2009	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beta/photon emitters*	pCi/L	0	50**	4	NO	ND-4	2008	Decay of natural & man-made deposits
Chromium	ppb	100	100	2	NO	ND-2	2009	Erosion of natural deposits, discharge from steel mills
Combined radium 226/228*	pCi/L	0	5	2	NO	ND-2	2008	Erosion of natural deposits
2,4-D	ppb	0	70	0.2	NO	ND-0.2	2009	Runoff from herbicide used on row crops
Fluoride	ppm	4	4	1.3	NO	0.33-1.3	2009	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer & aluminum factories
Nitrate (Nitrogen)	ppm	10	10	2.6	NO	0.6-2.6	2009	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (Nitrogen)	ppm	1	1	0.09	NO	ND-0.09	2009	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	ppb	50	50	1.0	NO	0.4-1.0	2009	Erosion of natural deposits; discharge from petroleum refineries; discharge from mines
Simazene	ppb	4	4	0.07	NO	ND-0.07	2009	Herbicide runoff

Total Organic Carbon	% ppm removal	N/A	TT (25% - 35%) required	40%	NO	25% - 71%	2009	Naturally present in environment
Xylenes (total)	ppm	10	10	0.0005	NO	ND – 0.0005	2009	Discharge from petroleum factories; discharge from chemical factories

Notes:
* Most recent monitoring for this parameter was 2008
** The MCL for Beta particles is written as 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for Beta particles.

Contaminant/DBPs/ Disinfection Byproducts	Running Annual MCLG (ppb)	Average MCL (ppb)	System Running Annual Average (ppb)	System Range (ppb)	Violation?	Sampling Year	Typical Source of Contamination
TTHMs [Total Trihalomethanes]	N/A	80	42.5	22-74	NO	2009	Byproduct of chlorination
Haloacetic Acids(5)	N/A	60	31.25	16-45	NO	2009	Byproduct of chlorination
Total Chlorine	4 ppm	4 ppm	2.429 ppm	2.0 – 3.0	NO	2009	Disinfection additive

Town of Vienna
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2010 WATER QUALITY REPORT